Workforce Safety & Insurance

Putting safety to work

Enterprise Application Development Technology
Post Implementation Review Final Report

Prepared by: Brandi Fagerland

Date of publication: 08/24/2005

1. Overview

The Enterprise Application Development Technology Project (EADT) was overall a success for WSI. A lot of constructive lessons were learned throughout the project. The project was faced with many "firsts" for WSI. It was the first project to abide by new procurement policies for WSI. It was the first project that WSI managed through ITD's Large Project Oversight Standard. It was the first project to result in applications deployed to ITD's WebSphere Environment. It brought brand new development and testing technology into WSI. It was the first project to follow WSI's own new Project Management Standards; in fact, the standards were developed in conjunction with the project.

2. Survey Results

Three different surveys were sent out to gather feedback on this project. The three surveys were geared toward the Business Sponsors, the Executive Steering Committee, and the Project Team separately. There were no responses received from the Executive Steering Committee. The results of the Business Sponsor and Project Team surveys are attached.

3. Lessons Learned

Each of the three surveys conducted contained a question about lessons learned on the project. An email asking for lessons learned was sent to other members of the IS department that played an important role in the project but were not members of the core team. A Project Assessment Meeting was conducted on August 2, 2005 with the Business Sponsors, Executive Steering Committee, and Project Team to brainstorm lessons learned. All of these results were accumulated in a Lessons Learned document that is attached.

4. Product Effectiveness

A Compuware Suite of products was purchased and used for this project. WSI staff were trained and mentored on these products and two applications, OFROI and OEA, were developed through the mentoring and training. It was anticipated that these products would make WSI web application development staff 100% more productive in developing, testing and deploying web applications. No formal metrics were taken but development staff feels as though they are, on average, 37.5% more productive. The development team sees value in the amount of code that the OptimalJ product will create as a result of proper modeling. The deployment of applications to WebSphere is not as seamless as the development staff had hoped. It was more difficult than anticipated to make applications ADA Compliant. The development staff feels as though the applications developed with the Compuware products are more stable.

The OFROI Application developed through the project has created great efficiencies for WSI Registration Staff. It also provides an easier interface to the external user. Customers filing a

First Report of Injury through this application are also presented with their claim number immediately, which has been a desire for quite some time.

The OEA Application provides WSI's Policy Holder Services group a platform by which all future web based applications will be supported. Employers can now make online payments via this application. They can also receive statements online.

5. CSSQ Management

CSSQ Management went very well for this project considering its size and complexity. A summary of the CSSQ management activities for the project follows.

WSI made the decision early on to use the Enterprise Architecture recommended functional testing tool, Seque's SilkTest, instead of Compuware's functional testing tool. Segue was contacted and separate negotiations and training plans were set up with them.

Originally the project development team was to consist of two teams that each contained two developers and one tester. One developer was pulled from the project to support other priorities. Initially, WSI stayed with two teams; one team of one developer and one tester and the other team as originally planned. Later the group was combined into one so that the testers could work together more closely as well as the three developers. This was the best decision for the project and happened smoothly.

The project was delayed in start by one week from the original RFP schedule. The actually project length was not shortened but rather just delayed in start by one week.

When the project first began, what two applications that were to be developed during the project were not decided upon. While the initial training was taking place the Project Manager negotiated that decision and the project was not affected. Ultimately, the size and complexity of the applications chosen were probably too great. The team was very challenged to complete the projects within schedule and ultimately did not by the end of the project. That did not delay the end of the project because a plan to complete those projects was established and the applications delivered a month-and-a-half after the completion of the project. This was acceptable to WSI management staff.

At the beginning of the project, a meeting was conducted between WSI and ITD to negotiate where the development WebSphere environment for WSI would be hosted. It was decided that ITD would supply a stand-alone WAS development box for WSI to use throughout the project. There were times when WSI worked late and was delayed waiting for ITD support, but WSI also did not have to administer their own box.

Originally the project consisted of three iterations; the first being an eight-week iteration and the last two being six-week iterations. The first iteration would have resulted in the initial release of the Online Employer Account Application. The first six-week iteration would have resulted in work done toward the Online Claim Filing Rewrite plus enhancements to the Online Employer Account application by two separate teams. The last six-week would have resulted in the release

of the Online Claim Filing Rewrite application plus additional enhancements to the Online Employer Account application by two separate teams. The iterations were adjusted to two ten-week iterations. The first iteration consisted of work done on the OEA Application. The second iteration consisted of work on the OFROI as well as continued work on the OEA Application. This adjustment worked nicely so that the team could all work together on one project at a time.

Additional QA Mentorship was added to the project. This affected both the scope and cost of the project but not the ultimate schedule. The QA Team had a lot to learn in a short period of time. All of their experience had been in training and not in practical application. All of the QA mentors had recommended that they come back to WSI for the testing phase of the OFROI project to assist with practical application of the testing. An amendment was made to the original contract with Compuware to contract additional QA Mentoring services. The overall QA Mentor came back for three weeks at the end of the OFROI iteration. A QA Load Mentor came back for three days of QA Load testing the last week of the OFROI iteration. An ApplicationVantage Mentor came back three days of ApplicationVantage testing the second to last week of the OFROI iteration. This added about 6% of the original cost to the project.

Toward the end of the project, Pat Kelly resigned his position as the IT Director for WSI. Steve Vaughan took over that position as the interim Director. Steve then also took over Project Sponsorship of this project.

The project was extended by one week in order to accommodate Compuware's schedule.

There were a couple of quality objectives that were not fully met. Each of the applications developed were to have documented test plans and test cases using Catalyze. Each application developed did have documented test plans and test cases but not necessarily in Catalyze. Each of the applications developed were to have test scripts written for and run on them. Because the objective "The result of this project will be two production-ready business applications" was not fully met, this objective could not be fully met either. One of the members of the testing team was also pulled from the project for other priorities.

6. Risk Management

A Risk log was maintained throughout the project. It was reviewed at each Steering Committee Meeting.

A couple of the major risks did happen and were handled in the following ways:

- "Get ITD waivers for hosting own repositories and testing environment." – ITD did end up hosting our WebSphere testing environment. WSI worked mostly directly with Chad Gumringer from ITD. When Chad was not responsive, WSI learned to contact ITD's Help Desk. If that was not as responsive as needed, the Project Manager would raise the issue within WSI's internal chain of command and they would contact higher level people at ITD. That usually resulted in fairly quick response.
- "Any of the WSI required resources are made unavailable during the project." – One tester was taken from the project for some time to work on higher priorities. Compuware's testing mentor ended up taking over some of that work load. One

developer was taken from the project for some family purposes. The developer missed some mentoring time but the project was not extensively impacted.

7. Communications Management

Steering Committee Meetings were conducted throughout the project. They were very effective for gaining upper-management support when needed. Team Status Meetings were conducted weekly when appropriate and at the end of the iterations daily. The team status meetings were an effective way to keep everyone involved in the project on the same page. There could have been more regular communication with the business sponsors.

One project team member stated that "<The Project Manager> did a good job in keeping the topics in the meetings on track and making sure tasks and issues were assigned and prioritized.". Another stated, "There were a couple of times when the project team requested things that could have made the project flow better and the project manager didn't appear to take these things seriously.".

Some comments from the business sponsors:

- "There were times when I felt communication took place at the last minute and then we were expected to drop everything to meet the needs of the development team. Otherwise it was OK."
- "It would have been beneficial to invite PHS personnel to bi-monthly or monthly update meeting, making them aware of timelines and status of issues."

8. Acceptance Management

Acceptance Management is probably the weakest area for this project. Most acceptance management was handled through sign-off of scope changes.

It was acknowledged during the Post Assessment Meeting that final sign-off of business requirements was never really gained from the business sponsors. That was listed as a lesson learned. The Project Team and Business Analysts worked very closely with the Business Sponsors in requirements gathering, but a formal sign-off process was never completed.

9. Organizational Change Management

Toward the end of the project, WSI's IT Director resigned his position. He was the designed Project Sponsor for this project. An interim director was appointed by WSI. At that time, the Project Manager filled out a Scope Change Form to transfer sponsorship to the new interim director. The Project Manager also met with the interim director to fill him in on the status of the project.

10. Issue Management

Issue forms were submitted and managed via an issue log throughout the project. Issues were addressed at each Steering Committee Meeting. Some issues were addressed between meetings as needed. Most issues were resolved before change control was required. Some of the major issues that were encountered and how they were addressed follow:

- "Get approval from EA committees to add OptimalJ and Catalyze to list of state accepted software tools. If EA does not approve these tools, WSI would have to decide whether to purchase the tools or not." – Arrangements were made to present this issue to the appropriate EAT teams. The EA Software Domain Team and EA Architectural Review Board approved adding these tools to the list. The issue was resolved.
- "There have been issues with having powerful enough machines to support the purchased Compuware software." – The Project Manager worked with desktop support staff to do what we could for the team while WSI ordered new machines for the IS department. The team took the machines from their cubes and offices because they were more powerful than the machines that were originally planned for use during the project. Machines eventually arrived and were set up for use by the project team.

Overall the team seemed pleased with the issue management of the project. Following were some comments received:

- "Whatever issues that arose were monitored closely as soon as they became an issue."
- "With the OEA application, there was a lot of interaction required between our DBA's, Oracle, IBM, and ITD. I wasn't heavily involved and I don't know what the escalation was (nor do I remember specific issues anymore). From what I understand, though, there were communication breakdowns amongst these parties."

11. Project Implementation and Transition

The business sponsors were very pleased with the implementation and transition of the two applications that were developed during the project. When surveyed they gave this category near perfect scores.

The applications were not delivered during the project as planned, but shortly thereafter. A lot of time was taken to ensure the quality of the applications and business satisfaction with the applications.

Several demonstrations of the applications were given to the business owners, administrative staff and even Board of Directors.

12. Performance of Performing Organization

The Project Team worked very closely with the business sponsors of the two applications produced through the project. At times, communication could have been better, but overall the business sponsors were very involved in the requirements gathering, decision making, and testing of the applications.

The Public Relations department was involved in ensuring consistency with WSI's existing web applications as well as ensuring proper web page wording.

The Customer Service department was kept informed and trained on the applications in order to support external customer calls.

Executive Staff were kept informed and were very supportive of the overall process involved with the project.

13. Performance of Project Team

The project team was very dedicated to the objectives of the project. A lot of very concentrated and some long hours were put into the project by the project team. They were not only responsible for learning and being mentored on the new J2EE products purchased from Compuware, they were also responsible for developing and testing two very large applications.

A lot of feedback was received from the individual team members related to the project team. Some of it was posted publicly and some was forwarded to supervisors and kept confidential. Some of the comments received about the project team were:

- "The entire team that contributed to this project from CMS to the actual web team should be commended for their thoroughness and efforts on this project. I can't say how much I appreciate their work and dedication. Without it, it would not have been this successful! Great job!!!!"
- "On average, the Project Team members fulfilled their roles adequately; some above average, some below."
- "I don't really like evaluating my co-workers or myself in this manner, but, some of these things won't ever come out if there aren't surveys like this. There is a huge issue, not only on this project, but in our IS staff as a whole. There is a sever lack of accountability for tasks assigned. It can be made clear that a task is urgent, but if someone blows it off and never even starts on it, the worst thing that will happen is that it will get assigned to someone else that is working hard."

14. Key Project Mentrics

a. Budget

The original budget for the project was $508,884.50. The final budget was $538,194.50. That is a difference of $29,310.00. It is 5.8% over the original budget. WSI purchased additional QA Mentor time from Compuware. The time initially proposed by Compuware was not the ideal time for the project The EADT QA Team had a lot to learn in a short period of time. All of their experience had been in training and not in practical application. All of the QA mentors had recommended that they come back to WSI for the testing phase of the OFROI project to assist with practical application of the testing.

b. Schedule

The project originally was to be complete by July 8th, 2005. The project was actually complete by July 15th, 2005. This was due to a Compuware schedule conflict.

c. Objectives

The objectives for the project were:

- The result of this project will be two production-ready business applications
- The applications developed will be deployed to ITD's IBM Websphere environment
- The products used in the development of the applications will be Compuware's following products: Catalyze, Optimal J (three editions – Architect, Professional, and Developer), DevPartner Java Edition Server, QACenter Performance Edition, and

Application Vantage. Segue's functional testing tool suite will also be used for functional testing.

- All business requirements will be documented in Catalyze.
- Each of the applications developed will have documented test plans and test cases using Catalyze.
- Each of the applications developed will have test scripts written for and run on them.
- Each of the applications developed will be performance and load tested.
- The code written by the developers for each application will be thoroughly commented.
- Each of the applications developed will be ADA Compliant.
- At the end of Phase 2, an ADA testing routine will have been established and documented for future ADA Compliance testing efforts.
- At the end of Phase 2, a testing process will have been established and documented for future testing efforts.
- WSI development staff involved in Phase 2 will be mentored to be independent with the Compuware suite of products involved in development.
- WSI testing staff involved in Phase 2 will be mentored to be independent with the Compuware suite of products involved in testing.
- WSI's development staff will be able to develop web applications faster than in the past due to the incorporation of Model Driven Development. OptimalJ is the development suite that generates a large percentage of code, creating reusable components that can be shared with legacy applications, and using Catalyze to gather and scope business requirements.
- As part of the post-implementation review of this project, WSI will analyze whether development more productive than previously experienced. If development performed more rapidly, WSI will analyze the ratio of improvement. The expectation is that WSI will experience a productivity improvement of at lease 100%.

Most of the objectives for the project were met. The objectives not met and an explanation for why each objective was not met follow:

- The result of this project will be two production-ready business applications – A plan to accomplish this was laid out but not able to be fully implemented by the end of the project. This was completely acceptable to WSI.
- Each of the applications developed will have documented test plans and test cases using Catalyze – Each application developed did have documented test plans and test cases but not necessarily in Catalyze. The future plans are to always document requirements in Catalyze.
- Each of the applications developed will have test scripts written for and run on them – because of the first objective in this list not being met, this objective could not be fully met either. One of the members of the testing team was also pulled from the project for other priorities.